

Using Simulated Patients' Ratings to Predict Psychology Graduate Students' Interviewing Skills

Psychologists depend upon comprehensive interviews to help identify mental health conditions in order to provide evidence-based, effective interventions. Although it would be ideal for trainees to acquire interviewing skills before seeing their first client, there are limitations in the effectiveness of interviewing peers and obtaining useful feedback from peers and supervisors (Kaslow et al., 2009; Meier & Davis, 2011). Simulated patients (SPs) are often better suited to provide standardized experiences and impartial feedback (Kaslow et al., 2009). Students gain invaluable implicit feedback during role-plays with SPs, as they learn to adjust their skill development appropriately (Lovink et al., 2021). This study focuses on assessing the benefits of SPs in clinical psychology interview training. The Simulated Patient Assessment of Clinician Effectiveness Scale (SPACES) was created to enable SPs to offer feedback on the performance of psychology trainees' clinical interviewing. SPACES was adapted from the Arizona Clinical Interview Rating (ACIR) Scale (Stillman et al., 1977), a widely employed tool for assessing the interviewing skills of medical students. The items within SPACES cover the evaluation of clinician confidence, comfort level, perceived understanding, genuineness, and overall conversational flow. The Skills in Psychological Interviewing: Clinical Evaluation Scales (SPICES) was developed in response to the call for standardized methods of evaluating psychology students' skill development across the American Psychological Association's (APA's) competency areas. The SPACES form was analyzed and compared with the SPICES measure to determine the extent to which SP's SPACES ratings of students' (N=98) scores align with measures at the beginning and end of a semester of training in clinical interviewing with SPs. Results indicate that SP ratings do assess the likeability of interviewers but are not effective at assessing development of technical interviewing skills.

Introduction

Clinical psychology has made significant progress during the 20th century. Advancements in psychological services have notably increased the life expectancy of individuals with mental disorders (Chan et al., 2023). However, approximately 22.8% of adults living in the United States, equivalent to 57.8 million Americans, are estimated to have one or more mental illnesses according to the National Institute of Mental Health (NIMH, 2024). As the United States (US) population continues to diversify, the prevalence of mental illness is likely to rise according to the US Congressional Budget Office (CBO, 2021). In response to the demand, the number of individuals graduating with doctorates in psychology is rapidly rising, as prevalence rates increased by 25% from 2008 to 2017 alone according to the American Psychological Association (APA, 2019). Moreover, health service psychology, or patient-facing psychology, has been growing at a faster rate than research-focused psychology, with over half of doctorates awarded

1 in 2017 being in health service psychology and representing a 28% increase over
2 10 years (APA, 2019).

3 With the increasing need for clinical psychologists and the steady rise in
4 future providers, maintaining standardized education and training is crucial. One
5 metric of ensuring quality training for future psychologists is instilling accreditation
6 standards, which demonstrate a program's dedication to comprehensive clinical
7 training. The American Psychological Association's Standards of Accreditation
8 (SoA) aim to establish and to enforce updated and well-rounded competency
9 expectations that facilitate the education and evaluation of students. Current
10 competencies outlined by the SoA include: 1) research, 2) ethical and legal
11 standards, 3) individual and cultural diversity, 4) professional values, attitudes, and
12 behaviors, 5) communication and interpersonal skills, 6) assessment, 7) intervention,
13 8) supervision, and 9) consultation and interprofessional/ interdisciplinary skills
14 (APA, 2018). However, the practical application of these competencies can be
15 complex. Programs must account for the varied experiences of students who enter
16 with differing levels of prior training and education (Fouad et al., 2009; Rodolfa et
17 al., 2013). Programs are challenged to ensure that standards are maintained while
18 also adapting to the unique experiences of each student.

19 Training the growing number of graduates into qualified professionals
20 requires the cultivation of several core skills, with clinical interviewing being at
21 the forefront. Interviews, combined with clinical practices by psychologist Jean
22 Piaget, began in the 19th century to explore thoughts objectively with standard and
23 nonstandard questioning (Sommers-Flanagan et al., 2015). Today, interviewing
24 skills are vital to interpersonal relationships, interventions, assessments, evidence-
25 based decision-making, supervision, and consultation. Gathering information
26 through the client experience is one of the pivotal points in assessment and
27 treatment to arrive at a scientifically valid diagnosis (Sommers-Flanagan et al.,
28 2015). As the initial point of contact, interviews set the tone for the therapeutic
29 relationship and provide the first opportunity for establishing rapport. Client/
30 patient perceptions of the relationship are key predictors of future outcomes and
31 potential indicators of increased risk of dropping out of therapy (Flückiger, Del Re,
32 Wampold, & Horvath, 2018; Jankowsky, Zimmermann, Jaeger, Mestel, &
33 Schroeders, 2023). To help students develop the skills necessary to build positive
34 relationships and strong therapeutic alliances from the initial interview, training
35 programs frequently use role-play exercises.

36 This paper begins by introducing the importance of continued training in the
37 growing psychology field, the role of competency models in training, and the
38 outcome on patient care. A literature review then examines how interviewing
39 skills are often taught and assessed in health service psychology doctoral programs
40 and the role of simulated patients within the process. Methodology, including
41 participants, relevant measures used, and procedures are then described before the
42 results are outlined. A discussion then explains the implications and utility of the
43 findings, and the paper ends with conclusions and a review of limitations.

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1 **Literature Review**

3 *What Interviewing Skills to Teach*

5 Clinical interviews rely on strong verbal and nonverbal communication skills.
6 Competent interviewers acknowledge their own areas requiring growth, remain
7 conscious of personal biases, and are proactive in seeking to understand their
8 clients in order to bridge any gaps in knowledge or skills (Solomon et al, 2017).
9 While attending to these issues, the interviewer must also remain mindful of the
10 purpose of the interview and remain sensitive to their own and the client's
11 disclosure choices (Davies, 2019). Integrating these skills requires practice and
12 intentional effort; thus, the skills needed to conduct effective interviews can be
13 taught and are not necessarily inherent. An analysis of psychology trainee
14 interviewing skills before and after explicit training reveals that training allows
15 interviewers to develop increased empathic communication, to utilize their
16 knowledge and training to demonstrate credibility, and effectively to address
17 important aspects of the interview, such as consent and safety assessment (Osborn
18 et al., 2023).

19 When interviewing, it is imperative that providers allow their patients to use
20 their own words to describe their experiences and to avoid implying that there are
21 'right' or 'wrong' answers. One method of fostering open communication is in the
22 use of open-ended questions, which prompts patients to elaborate (Bredart et al.,
23 2014). Using a patient's own language during reflections and when synthesizing
24 information can then support the patient in feeling validated and understood, in
25 turn increasing patient ratings of satisfaction and enhancing their likelihood of
26 continued care (Heaven et al., 2003; O'Keefe et al., 2001). Combining open-ended
27 and close-ended questions to conduct an interview will also facilitate a client-
28 centered approach. Following the lead of a patient encourages the use of active
29 listening and empathic responding and is associated with increased positive clinical
30 outcomes regardless of setting or diagnosis (Heaven et al., 2003). Throughout the
31 interview process, providers often fixate on presenting problems or clinical concerns.
32 In order to establish a positive environment, to build rapport, and to gather
33 information regarding protective factors and patient strengths, it is valuable to
34 spend interview time eliciting positive experiences and inquiring about patient
35 wellness (O'Brian & Schlechter, 2016).

36 It is also important for clinical interview training to incorporate specific
37 emphasis on and practice of safety and risk assessments. Unfortunately, many
38 mental health providers are not provided with sufficient training to assess for
39 suicidality (Schmitz et al., 2012), to feel confident enough to ask about or to evaluate
40 for possible abuse (Young et al., 2001), or to be effective in responding to threats
41 of violence and suicidal risk (Mackelprang et al., 2014; Osborn & Cash, 2020).
42 However, even through brief targeting training opportunities, providers are able to
43 increase their competency and their confidence in these skills (Osborn & Cash,
44 2020), illustrating the value of their inclusion within training programs.

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1 *How to Teach Interviewing Skills*

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3 Psychology and medical programs have been progressively employing role-
4 play experiences to train and to evaluate students. Unlike other methods of
5 instruction, role-playing facilitates opportunities to step into the role of provider in
6 low-risk environments while enabling direct observation (Shae & Barney, 2015).
7 Not only do students gain the opportunity to practice interviewing skills, but they
8 may also role-play as the patient and develop increased empathy while gaining
9 insight into patient experiences (Meier & Davis, 2011). Role-playing with a
10 supervisor often improves student confidence and allows opportunities for direct
11 modeling and practice of targeted clinical interviewing skills (Shae & Barney,
12 2015). While role-play with a supervisor may occur in direct supervision
13 experiences, more often instruction surrounding interviewing skills occurs in group
14 settings, and role-play activities occur as practice assignments between peers.
15 While these experiences have the potential for benefits, they are often not taken
16 seriously by students, include inaccurate portrayals of diagnoses or clinical
17 experiences, and are not very effective (Kaslow et al., 2009; Meier & Davis, 2011).

18 Simulated patients (SPs) are actors specifically trained to portray particular
19 diagnoses or symptoms within clinical settings to facilitate clinical training
20 (Barrows, 1993). SPs are used across various disciplines (e.g., medicine, nursing,
21 nutrition, pharmacy, occupational therapy, mental health) to train students, to
22 facilitate competency acquisition, and to assess competencies (Barros, 1993;
23 Beshgetoor & Wade, 2007; Cangelosi, 2008; Giles et al., 2014; Kaslow et al.,
24 2009; Masters et al., 2015; Mesquita et al., 2010, Yap et al., 2012). The training
25 that SPs receive creates role-play interactions that are more representative of actual
26 client interactions within safe environments to practice skills without the potential
27 risk of ethical dilemmas, harming clients, and increased levels of uncertainty
28 (Kaslow et al., 2009; Masters et al., 2015).

29 30 *Assessing Interviewing Skills*

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32 Despite the continued presence of interviewing skills within competency
33 models for mental health professionals, structured evaluation and assessment of
34 interviewing skills varies widely and is under-researched. Measures focusing on
35 specific interview components, such as the Jefferson Scale of Physician Empathy
36 (JSPE), are often used to assess abilities before and after training (Fernandez-Olano
37 et al., 2008). However, a limitation of single factor measures is that they evaluate
38 only one aspect of an interview and not overall interviewing competency. Instead,
39 it is beneficial to utilize measures that incorporate the range of skills and
40 interpersonal exchanges that make up an effective clinical interview.

41 42 *Use of Client and SP Feedback*

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44 To increase objectivity in skill assessment and supervision, client feedback
45 has become a more common tool (Worthen & Lambert, 2007). Using rating scales
46 (e.g., client satisfaction ratings) students and their supervisors have access to

1 immediate feedback regarding the services provided and their perceived efficacy.
2 When client feedback is consistently incorporated into supervision, students
3 demonstrate greater improvement in their clinical skills than students who do not
4 have client feedback incorporated into their supervision (Reese et al., 2009).
5 Additionally, student self-evaluations appear to increase in accuracy, demonstrated
6 by a stronger association between client outcomes and provider self-efficacy
7 ratings for those for whom client feedback was a regular part of their training
8 (Reese et al., 2009). Unfortunately, research shows that client satisfaction ratings
9 are often influenced by social desirability pressures and can vary significantly
10 based on how and when they are collected (Burroughs et al., 2005).

11 To address some of the subjectivity and bias associated with direct client
12 satisfaction ratings and feedback, SP feedback has been utilized to assess
13 competencies and to monitor improvement overtime (Kaslow et al., 2009; Masters
14 et al., 2015, Yap et al., 2012). As interactions with SPs have been found
15 comparable to true client interactions, their feedback is viewed as an effective
16 representation of how clients in the interactions may feel. Additionally, the SP
17 presentations can be standardized, providing more consistent pre- and post-test
18 experiences and allowing for more direct comparisons of skill changes over time
19 (Block et al., 2018; Kaslow et al., 2009). The increased impartiality of feedback
20 provided by SPs, as compared to that provided by true clients, paired with the
21 decreased exposure to unnecessary risk associated with building competency via
22 working with clients has led to the use of SPs for evaluative purposes by 94% of
23 medical schools in the United States (Block et al., 2018; Kaslow et al., 2009).

24 The study aimed to evaluate students' ability to establish a rapport with
25 interviewee SPs while learning and applying interviewing skills. The progress of
26 the clinical trainee's rapport with the simulated patient was evaluated at the
27 beginning and end of the semester. The second objective is to assess the technical
28 interviewing skills of students, including risk assessment. The study will determine
29 the capacity of SPs to evaluate technical skills developed over the second semester
30 in an APA-accredited program. This study's findings will enhance the understanding
31 of how students develop and refine their interviewing skills and the effectiveness
32 of standardized patients in providing feedback on such skills.

35 **Methodology**

37 *Participants*

39 Data were collected from 100 first-year doctoral clinical psychology students
40 at a large university in the southeastern United States in the winter of 2019 prior to
41 the onset of the COVID-19 pandemic. The students were enrolled in a four-month
42 interviewing course combined with lab sessions incorporating weekly three-hour
43 meetings with a session facilitator and other students enrolled in the Clinical
44 Psychology Ph.D. or Psy.D. program. The students were assigned to 10 groups of
45 10 students each. The students had minimal prior experience interviewing clients
46 for clinical purposes. The course and lab sessions aimed to develop several skills,

1 including professional standards and ethical decision-making, professional
2 presentation, effective communication with diverse interviewees, appropriate
3 relational and interpersonal skills, informative and well-integrated oral and
4 nonverbal communication using professional language and concepts, and practical
5 interpersonal skills combined with the ability to manage difficult communication
6 situations. The course was developed in accordance with the SoA of the American
7 Psychological Association (APA).

8 Data from two participants were removed due to missing scores on the Skills
9 in Psychological Interviewing: Clinical Evaluation Scales (SPICES), an instrument
10 developed specifically for evaluating clinical interviewing skills (Osborn, et al.,
11 2023). Of the remaining 98 participants included, 77 identified their gender as
12 female, 16 as male, and 5 did not specify. Ages of participants ranged as follows:
13 20-24 (n = 72), 25-29 (n = 19), 30-34 (n = 4), 40-44 (n = 2), or not specified (n =
14 1). Participants reported identifying as White (n = 62), Hispanic/Latinx (n = 21),
15 African American (n = 6), Asian (n = 3), other (n = 3), and not specified (n = 3).
16 Among these participants, 83 identified English as their first language, 11 reported
17 Spanish as their first language, one noted Creole as the first language, and two
18 specified 'other'. One participant chose not to report their first language. Nine
19 participants indicated being trainees in the Ph.D. Clinical Psychology program, 88
20 were trainees in the Psy.D. Clinical Psychology program, and one participant
21 chose not to disclose which program. Ninety-three participants reported being in
22 their first year of their graduate program and four reported being in their second
23 year. One participant chose not to answer.

24 *Procedures*

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27 The present study employed simulated patients to assess the progress and
28 competency of participants in basic interviewing skills. Simulated patients were
29 provided with detailed descriptions of the case they were to portray, including the
30 client's name, age, clinical setting, presenting problems, and personal background
31 information. The simulated patients attended two-hour, face-to-face training
32 sessions regarding the characteristics of each disorder to be portrayed. The training
33 sessions were conducted by a psychology faculty member who was an expert in
34 each of the five disorders to be portrayed by the simulated patients.

35 The course began with a pre-test, videotaped interview to establish a baseline
36 score (i.e., the average of the two evaluators' ratings) of the participants' clinical
37 interviewing skills before they received formal training. Each student was allotted
38 15-minutes to complete an interview with a simulated patient who portrayed an
39 individual with a mental health disorder. The pre-test was conducted in person and
40 video recorded for evaluation by two randomly assigned interns and/or post-
41 doctoral residents utilizing SPICES. The students also received feedback from the
42 simulated patient using the Simulated Patient Assessment of Clinician
43 Effectiveness Scale (SPACES), a 12-item measure developed for this project for
44 the purpose of providing feedback from simulated patients to students..

45 Participants engaged in a structured weekly didactic and practice session as
46 part of the interviewing course requirements. The instruction sessions commenced

1 with a brief comprehensive lecture covering a range of interview-relevant topics
2 and skills, including assessing for suicide, threat, and abuse. Following the lecture,
3 the students participated in two skills-based interventions each week. Each student
4 completed bi-weekly 15-minute role-plays and received live feedback from peers
5 and the course facilitator while the students reflected on their performance. The
6 structure of these sessions was designed to facilitate students' utilization of role-
7 playing to reduce the stress of and to increase skills necessary for initial clinical
8 interviews with a clients at their first practicum sites. Simulated patients and
9 facilitators rotated every week, and participants had the opportunity to role-play
10 with a new simulated patient each encounter. A two-week scenario featuring a
11 single diagnostic case allowed students to practice and to observe other trainees for
12 each of the five mental health disorder portrayed. Furthermore, the students
13 responded to modules focusing on basic interviewing skills, such as reflection,
14 summarization, and empathy, guided by the observance of ethical considerations
15 and diversity, among other components.

16 At the end of the semester, the participants completed a post-test interview to
17 evaluate progress and competency in their interviewing skills. The post-test
18 interview was conducted in person, and participants were randomly assigned to a
19 15-minute interview time slot. During the interview assessment, students were
20 instructed to avoid using notes, as the aim was to prepare them for sitting with and
21 focusing fully on a client. Following the post-test, two interns or post-doctoral
22 residents were randomly assigned to assess the student's skills along with an
23 experienced faculty member using the Skills in Psychological Interviewing:
24 Clinical Evaluation Scale (SPICES). To be eligible to begin their first practicum
25 experience, students needed to pass the class by scoring 80% or higher based on
26 the average scores of all three raters. The standardized patients provided feedback
27 to the students who interviewed them using the Simulated Patient Assessment of
28 Clinician Effectiveness Scale (SPACES).

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31 **Test Instruments**

32 *The Simulated Patient Assessment of Clinician Effectiveness Scale (SPACES)*

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35 The Simulated Patient Assessment of Clinician Effectiveness Scale (SPACES)
36 was created to enable SPs to offer feedback on the performance of psychology
37 trainees' clinical interviewing. SPACES was adapted from the Arizona Clinical
38 Interview Rating (ACIR) Scale (Stillman et al., 1977), a widely employed tool for
39 assessing the interviewing skills of medical students. The items within SPACES
40 cover the evaluation of clinician confidence, comfort level, perceived understanding,
41 genuineness, and overall conversational flow. Its purpose is to enhance clinical
42 training by comprehensively assessing critical aspects of clinician-patient interactions.

43

44 *The Skills in Psychological Interviewing: Clinical Evaluation Scales (SPICES)*

45

The Skills in Psychological Interviewing: Clinical Evaluation Scales (SPICES, Ketterer, 2014) was developed in response to the call for standardized methods of evaluating psychology students' skill development across many of the American Psychological Association's (APA's) nine profession-wide competency areas.

Results

The SPACES scores were analyzed and compared with the SPICES results to determine the extent to which SP's SPACES ratings of students' scores align with the SPACES competency measures at the beginning and end of a semester of training in clinical interviewing with SPs. The current study evaluates the utilization of SPACES in assessing the clinical effectiveness of students from SPs' perspectives.

Descriptive Statistics

Results included the scores of 98 participants from a graduate program in clinical psychology on the SPICES and SPACES measures at pre-and-post-test. Of note, two participants were removed from statistical analyses due to missing one or more scores on the SPICES measure. On the average, participants received higher scores at post-test (SPICES; $M = 94.35$, $sd = 3.33$), as compared to pre-test (SPICES; $M = 84.51$, $sd = 7.39$). Similarly, simulated patients appeared to rate participants more positively at post-test (SPACES; $M = 43.38$, $s = 4.37$) than at pre-test (SPACES; $M = 41.13$, $s = 6.30$).

Table 1 depicts the minimum, maximum, mean, and standard deviations of the scores obtained by participants on the SPACES and SPICES at two timepoints.

Table 1. *Descriptive Statistics of Scores Obtained by Students on the SPACES and SPICES at Pre-and-Post Test.*

Variable	Descriptive Statistic				
	N	Min	Max	Mean	Standard Deviation
Pre-Test SPACES	98	26.00	48.00	41.13	6.30
Post-Test SPACES	98	19.00	48.00	43.38	4.37
Pre-Test SPICES	98	33.00	97.50	84.51	7.39
Post-Test SPICES	98	15.67	101.67	94.35	3.33

Internal-Consistency Reliability

To confirm the psychometric properties of the assessments, the internal-consistency reliability of the SPACES and SPICES were assessed using Cronbach's alpha at pre-test and post-test. The reliability statistics for the pre-test SPACES test showed a strong internal consistency ($\alpha = 0.848$). Alpha coefficients ranged from 0.813 to 0.854 after item removal, suggesting each item contributes approximately equally to the scale's internal consistency. The post-test SPACES also demonstrated strong internal consistency ($\alpha = 0.753$), and alpha coefficients if items were

1 deleted ranged from 0.695 to 0.763. Similarly, the pre-test SPICES showed robust
 2 internal consistency ($\alpha = 0.851$). An item-deleted analysis revealed minimal
 3 changes in the overall alpha when individual items were removed from pre-test (α
 4 = 0.836 to 0.855). However, the post-test SPICES exhibited internal consistency
 5 below the expected level ($\alpha = 0.596$), and the Cronbach's Alpha ranged from 0.536
 6 to 0.629 after removal.

7 Paired-Sample *t*-Test

10 Paired-sample *t*-tests were conducted to examine whether completing the
 11 practicum course would lead to perceived improvement as well as assessed gains
 12 regarding clinical interviewing skills. Students obtained significantly better scores
 13 on the SPICES at post-test ($M = 94.35$, $s = 3.33$) as compared to pre-test ($M =$
 14 84.51 , $s = 7.39$), demonstrating higher ratings of skill development by instructors
 15 at post-test, ($t(97) = -13.07$, $p < 0.001$, $d = 1.32$). Similarly, significantly better
 16 ratings by SPs of perceived interviewing effectiveness were obtained on SPACES
 17 by students at post-test ($M = 43.38$, $s = 4.37$) as compared to pre-test ($M = 41.13$, s
 18 = 6.30), suggesting an increase in perceived clinical skills by simulated patients
 19 ($t(97) = -2.97$, $p = 0.002$, $d = 0.300$). Overall, results show that students completing
 20 the practicum course developed better clinical interviewing skills, as indicated by
 21 both simulated patient and instructor ratings.

22
 23 **Table 2.** *SPICES and SPACES Scores at Pre-and-Post Test. Note That Higher*
 24 *Scores on SPICES and SPACES Indicate Greater Clinical Skills.*

	Pre-Test Scores		Post-Test Scores		t-test	
	Mean	Standard Deviation	Mean	Standard Deviation	<i>t</i> -score	<i>p</i> -value
SPICES	84.51	7.39	94.34	3.34	-13.065	<0.001
SPACES	41.13	6.30	43.38	4.37	-2.968	0.002

25 Bivariate Correlations

26 Results of non-directional, bivariate correlations showed significant positive
 27 associations between post-tests scores on the SPICES and the pre-test scores on
 28 the SPICES ($r = 0.208$, $r^2 = 0.043$, $p = 0.04$), as well as on the post-test scores on
 29 the SPACES ($r = 0.251$, $r^2 = 0.063$, $p = 0.01$). Notably, results indicate that
 30 students receiving more positive evaluations from instructors at pre-and-post-test
 31 timepoints were more likely to receive positive feedback from simulated patients
 32 at post-test. Further, a significant positive association was found between pre-test
 33 SPICES scores and pre-test SPACES scores ($r = 0.279$, $r^2 = 0.078$, $p = 0.006$).
 34 These findings suggest that students obtaining positive evaluations from simulated
 35 patients were more likely to receive positive scores from instructors at the pre-test
 36 condition. The positive correlation between scores obtained on the SPICES at post-
 37 test and the scores obtained on the SPACES at pre-test approached significance ($r =$
 38 0.195 , $r^2 = 0.038$, $p = 0.055$), suggesting that SPs may recognize early those
 39 students who relate well as interviewers. Future studies may examine more fully
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 41

1 the association between skill development results at post-test and the feedback of
2 simulated patients at the pre-test condition.

3
4 **Table 3.** *Bivariate Correlations between Pre-and-post Test SPICES and SPACES*
5 *Scores*

Measure	1	2	3	4
1. Pre-Test SPICES		0.208*	0.276**	0.038
2. Post-Test SPICES	0.208*		0.195	0.251*
3. Pre-Test SPACES	0.276**	0.195		0.049
4. Post-Test SPACES	0.038	0.251*	0.049	

6 * $p < 0.05$ level (2-tailed).

7 ** $p < 0.01$ level (2-tailed).

8 9 *Multiple Linear Regression*

10
11 A multiple linear regression analysis was used to determine the unique
12 contributions of the following variables in predicting skill development
13 evaluations at post-test: (1) skill assessment at pre-test, (2) simulated patient
14 evaluation at pre-test, and (3) simulated patient evaluation at post-test.

15
16 **Table 4.** *Summary of Multiple Linear Regression Analyses for Predicting SPICES*
17 *at Post-Test*

Variables	Regression Statistics		
	B	$SE B$	β
Pre-Test SPICES	0.072	0.045	0.160
Pre-Test SPACES	0.074	0.053	0.139
Post-Test SPACES	0.182*	0.074*	0.239*

18 * $p < 0.05$

19
20 The overall model was statistically significant, showing that the predictors
21 accounted for 9.2% of the variance in post-test scores on the SPICES ($F(3, 94) =$
22 $4.280, p = 0.007$). Results showed that post-test scores on the SPACES predicted
23 post-test scores on the SPICES above and beyond other predictors ($B = 0.182, SE$
24 $B = 0.074, p = 0.016, sr^2 = 0.057$).

25 26 27 **Discussion**

28
29 Clinical interviewing is a crucial aspect of graduate training, as it establishes
30 effective communication and rapport building, which, in turn, can lead to
31 improved mental health outcomes. Moreover, clinical psychologists utilize clinical
32 interviews to identify mental health conditions (Sommers-Flanagan et al., 2015).
33 Once clients decide to pursue treatment, accurate diagnoses can guide evidence-
34 based interventions for a variety of conditions. Simulated patients can be used to
35 train and assess upcoming cohorts, meeting the needs of a growing number of
36 trainees. The current study aimed to determine if students can establish rapport

1 with SPs, improve their interviewing skills, and maintain and develop the
2 connection skills over time.

3 4 *Intervention Efficacy*

5
6 This research study evaluated the level of technical and interpersonal
7 interviewing skills students possess, using the SPICES 26-item measure and
8 SPACES 12-item measure. In the current study, the SPICES exhibited high
9 internal consistency at the pre-test, but there was some variability at the post-test.
10 The decrease in alpha for post-test evaluation is likely due to the inclusion of
11 ratings from three evaluators, one of whom was an experienced faculty member,
12 increasing the variability compared to the pre-test ratings. The measure has
13 previously been validated and found to have strong internal consistency and inter-
14 rater reliability (Ketterer, 2014). Moreover, the results revealed a statistically
15 significant positive correlation between pre-test and post-test SPICES scores,
16 indicating that interviewing skill assessments before formal instruction and
17 practice are significant but weak predictors of how students will respond to formal
18 interviewing training.

19 The SPICES post-test scores were significantly higher than the SPICES pre-
20 test scores and reflected a large effect, strongly suggesting that the training and
21 practice improved students' technical interviewing skills and that the course
22 achieved its objective of improving the students' technical interviewing skills
23 overall. The findings are consistent with previous unpublished data indicating an
24 increase of at least one standard deviation in the SPICES scores from pre-test to
25 post-test annually. In addition, the SPACES scores revealed a statistically
26 significant change from pre-test to post-test, although this was a small effect. This
27 small change from pre-test to post-test, especially given the large degree of skill
28 improvement, suggests that two processes are involved. The SPs' ratings on
29 SPACES may reflect something about the interviewers which might be called
30 likeability or charisma, whereas the SPICES scores most likely reflect technical
31 skill development. Skills may well be easier to teach and much more amenable to
32 specific instruction than likeability. However, using stimulated patients (SPs) in
33 training can significantly enhance the overall likability of interviewers by fostering
34 a positive attitude during the learning process (Gorski et al., 2022).

35 The importance of a single intake interview conducted by doctoral students
36 has been called into question due to mixed findings (Hutchinson et al., 2008).
37 However, multiple practice with and feedback from SPs allows students to gain
38 insight into patient experiences and to improve their interviewing skills (Meier &
39 Davis, 2011). Working with SPs can help clinicians develop skills in responding to
40 anxiety-provoking and challenging interview situations. Moreover, SPs may
41 provide secondary psychological benefits through rapport building with students,
42 based, in part, on communicating their perception of the interviewers.

43 Interviewer's interpersonal likeability probably influences the interviewee's
44 perceptions of them. However, in this study, there was limited room for
45 improvement, since the clinical trainee's initial scores were already high at pre-test
46 (M=41.13, sd= 6.30) with a maximum possible score of 48. Clinical psychology

1 trainees, who are selected through a careful graduate admission process, likely
2 possess basic interpersonal skills at admission. Nevertheless, SPs may aid in
3 further developing these interpersonal and communication skills (Zraick et al.,
4 2003). SP feedback could benefit trainees by allowing them to practice their skills
5 on real individuals, receive feedback on their performance, and reflect on their
6 practice (Gorski et al., 2022). The clinical psychology trainees in the present
7 study receive bi-weekly feedback from simulated patients for each role-play, and
8 this could very well have aided in their improved SPICES scores from the
9 beginning to the end of the semester.

10 11 12 **Utilization of Client Feedback**

13
14 More than a third of patients who attend their first therapy session do not
15 return for their next visit (Simon et al., 2012). Although it would be ideal for
16 trainees to acquire interviewing skills before seeing their first client, factors that
17 may impede the development of interviewing effectiveness include a lack of
18 motivation to change, unclear bias mitigation strategies, and the absence of
19 communication training (Hagiwara et al., 2020). Therefore, novice clinicians may
20 get dismissed by or even do damage to their clients because they are not aware of
21 their skill deficiencies. Interestingly, clients who do not return report both
22 favorable and unfavorable outcomes of therapy, such as high satisfaction and
23 maximum improvement, as well as low satisfaction, weak alliance, and no
24 improvement (Simon et al., 2012). The rationale for their non-return is difficult to
25 discern without receiving more explicit feedback. Further research is also
26 warranted, as some clients may continue therapy despite initial judgments (Odell
27 et al., 1998).

28 The present study aimed to investigate the extent to which the ratings of SPs
29 could predict their ability to rate the skill development of the students. The results
30 showed that while the SPs' ratings correlated with scores on the interviewing skills
31 scales, they only accounted for a small proportion of the variance. There was no
32 significant correlation between the pre-test and post-test SPACES scores,
33 indicating the SPs' scores were not related between the two time points. However,
34 the 12-item SPACES displayed high internal consistency at both pre-test and post-
35 test, indicating the measure is reliable at detecting interpersonal likeability.

36 The authors also sought to explore whether the SPs' pre-test score was
37 associated with the post-test skills score. However, the correlational analysis did
38 not reveal any significant correlation between these two scores. SP's pre-test
39 evaluation of the clinical trainee does not seem to be a reliable predictor of their
40 final scores, suggesting that likeability varies over time.

41 The consistency of scores between SPs and skill evaluations during the pre-
42 test phase was also investigated. The analysis demonstrated a statistically
43 significant, positive correlation between the pre-test SPICES and pre-test SPACES
44 scores, indicating that as the SPICES scores increased, so did the SPACES scores
45 to some extent. Notably, this correlational analysis produced one of the highest
46 coefficients in the study, suggesting the relationship between simulated patients'

1 ratings and skill evaluations is strongest before the clinical trainees acquire
2 technical skills. This observation suggests that entry-level students exhibit general
3 affability before developing technical skills.

4 The regression analysis revealed that the post-test SPACES was a significant
5 predictor of post-SPICES, further supporting an effect of the timing of assessment.
6 Clinical psychology trainees who tend to be more likable may perform better on
7 SPICES, possibly due to their increased competence or test-related anxiety.
8 Likeability can influence how individuals are perceived and evaluated, ultimately
9 affecting their ability to perform well. Further research is necessary to investigate
10 whether the SPs can predict more than just affability.

11 **Conclusion**

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14 Employing reliable assessments to evaluate trainees on the APA SoA
15 competencies accurately is important while giving feedback and evaluating their
16 eligibility for commencing clinical work. The pre-practicum course is designed to
17 help meet every practicum site's unique needs, a requirement not applicable to all
18 courses. Therefore, it is important to utilize assessment tools to ensure that trainees
19 meet the standards set by the APA. The interventions and methods used in this
20 course provide tailored feedback, both live and through the SPICES and SPACES,
21 which supports students while they are developing their clinical interviewing skills,
22 as evident from the feedback provided by both simulated patients and skill raters.
23 The assessments utilized in the current study effectively capture the underlying
24 structure from the perspective of both simulated patients and interns or post-
25 doctoral students.

26 A correlation was revealed between the scores given by SPs and skill raters,
27 both before and after the SPs acquired technical skills. SPs exhibit the ability to
28 assess likability which is related to but different from technical expertise.
29 Implications of this study suggest that perceptions of the simulated patient and
30 rater of technical interviewing skills should be considered independently and
31 together to improve the accuracy of assessing the developing psychologist.

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